

INVREIA SUBARMATA FORESTER (HYMENOPTERA: CHALCIDIDAE) AT DUNGENESS, KENT

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Boucek (1972) reported the capture of four specimens of *Invreia subarmata* which were swept from short grass at Dungeness in 1971. The capture of this species in 1988 and again in 1989, in pitfall and water traps during a Nature Conservancy Council survey of Dungeness, is therefore not entirely surprising. The sample generated was substantial however, and provides an indication of the ecology of this species at Dungeness. Prior to 1988, published records of *I. subarmata* were limited to a single 19th century record from Portland (misidentified as *I. subaenea* in Ferriere & Kerrich 1958) and the four individuals taken in 1971 at Dungeness.

In 1988, the NCC undertook a survey of the invertebrate fauna of Dungeness as part of work commissioned by the then Central Electricity Generating Board (now Nuclear Electric). Twenty trapping stations were established in 1988 and were maintained between May and October. Data on the trapping stations is given in Morris & Parsons (1991b). In 1989, the study was extended to cover the whole of the shingle system at Dungeness and others elsewhere in south-east England. As a result, 37 trapping stations were established at Dungeness with a further 10 at Rye Harbour, East Sussex. Each trapping station comprised a linear run of five pitfall traps (plastic vending cups) spaced at approximately two metre intervals, and two white water

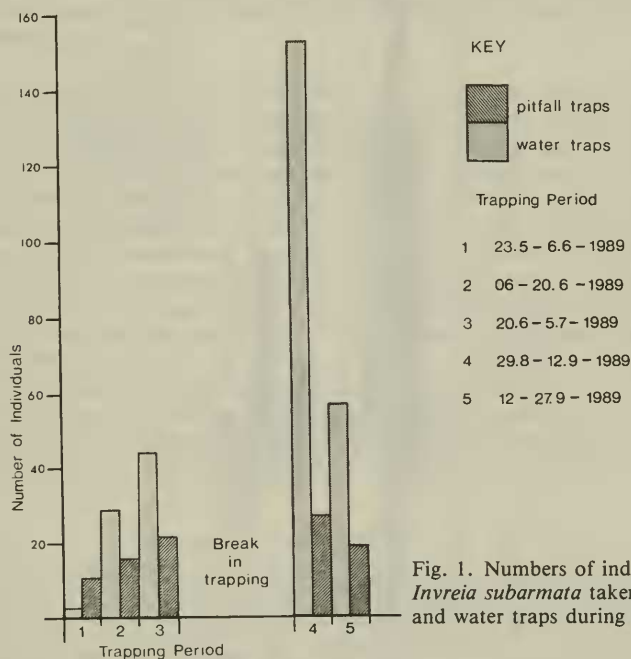


Fig. 1. Numbers of individuals of *Invreia subarmata* taken in pitfall and water traps during 1989.

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traps (white plastic bowls 20 cm in diameter and 9 cm deep). Both the pitfall and water traps were partially filled with a mixture of 10% ethylene glycol in water and were emptied every 2 weeks during two trapping periods; 23 May to 5 July and 29 August to 27 September. The locations of these traps are described in Morris & Parsons (1991a).

During the survey in 1988, parasitic Hymenoptera were not a target group and only a limited sample of material was retained. As a result, data for this period is only available from trapping in August and September. In 1989, an interest in a small group of parasitic Hymenoptera led to recording of Chalcididae. For the purposes of this article, the comments are therefore confined to the results of work in 1989 when it was possible to extract all relevant material. In 1989, a total of 380 individuals of *I. subarmata* were recorded. Figure 1 shows the numbers captured in each trapping period and from the available data, the peak frequency of *I. subarmata* appears to be August but, as there was a gap between trapping periods, this is not certain.

There is a distinct succession of vegetation types at Dungeness which is described by Ferry and Barlow (in Ferry & Walters 1985). Further studies and a classification of shingle vegetation are described by Ferry *et al.* (1990) and, as a result of this work, the vegetation is mapped by Fuller (1989). The trapping stations were arranged so that they remained within a distinct vegetation type and therefore, it is possible to compare the results of pitfall and water trapping against vegetation type (see Ferry *et al.*, 1990, page 94). Comparing the average number of individuals per trap run

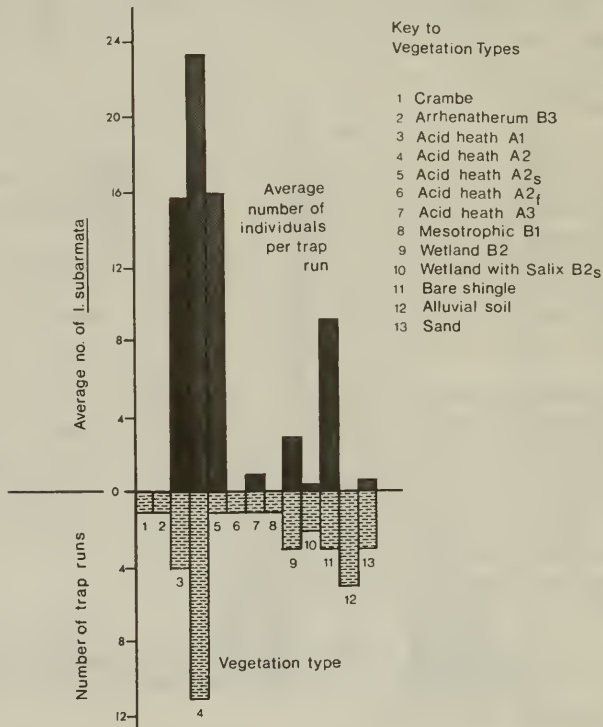


Fig. 2. Average numbers of *Invreia subarmata* related to trapping effort and habitat type.

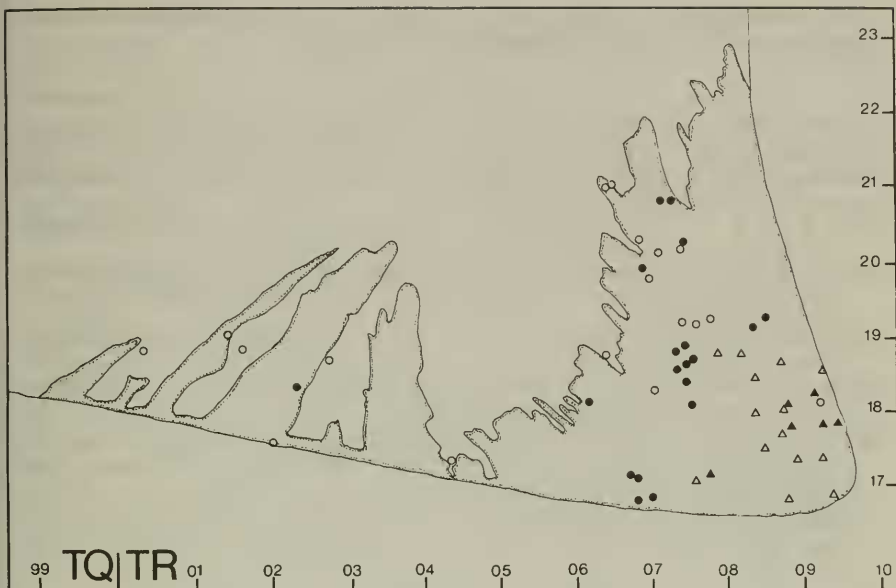


Fig. 3. The Distribution of *Invreia subarmata* on the shingle at Dungeness in 1988 and 1989. Pyramids indicate location of traps in 1988, circles in 1989. Blocked symbols indicate presence of *Invreia subarmata*.

against vegetation type, a clear distribution pattern can be discerned. Bearing in mind the greater number of trap runs on acid heath vegetation, it remains clear that this is the habitat where *I. subarmata* is at its greatest abundance (see Fig. 2). This is consistent with the xerophytic nature of *I. subarmata* (Boucek, 1952) which would favour shorter vegetation and also suggests the likely distribution of its host which, as yet, is unknown. It is also present in modest numbers on bare shingle and amongst wetland vegetation. The bare shingle sample stations were, however, the lows (depressions) between vegetated shingle ridges with acid heath on the fulls (ridge tops) and the majority of representatives from wetland were from the edge of a damp section bordered by acid heath vegetation. These results may therefore have been influenced by movement around nearby acid heath.

Invreia subarmata appears to be widely distributed on the shingle of Dungeness as illustrated in Figure 3, which incorporates the records of both 1988 and 1989. At Rye Harbour, a shingle system some 12 miles west of Dungeness, *I. subarmata* was not found. It was also not found in samples from Orford Ness where a small number of traps were operated for two 2-week periods; one in June and the other in September.

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BENHS FIELD MEETINGS

Shortheath and Slab Commons, East Hampshire, 24 June 1990

Leader: **S. R. Miles**. Six members attended this daytime meeting. Fortunately early sunshine had brought out various insects, however untypically for 1990 the rain clouds were gathering. The party admired the large amounts of cranberry (*Vaccinium oxycoccus* L.) in the bog at Shortheath Common, some still in flower. Some large horseflies *Tabanus autumnalis* L. were seen at rest on dead birch tree boles, as by this time it had become overcast. Andrew Halstead took a single specimen of the local fly *Acrocera orbicula* F. swept from long grass adjacent to the bog. As larvae these are obligate parasites of spiders. The hoverfly *Trichopsomyia flavitarsis* (Meig.) which is local in southern England due to its requirement for wet heathland was fairly frequent within the confines of the bog. Andrew was also fortunate to take a single specimen of the hoverfly *Heringia heringi* (Zett.) and an example of the local sawfly *Aneugmenus temporalis* Thom. Peter Chandler found two local fly species, the scathophagid, *Pogonota barbata* (Zett.), which he informs me also occurs on the nearby Surrey bogs and the Mycetophilid, *Rymosia armata* Lac., which is a fen and lakeside inhabitant.

After lunch the party walked to the nearby site of Slab Common, which is an army tracked-vehicle training and recovery area. This is what I term degraded heathland, however because of the army use it retains considerable open bare sandy areas. At the margins of these many small flowering plants occur, including various small Compositae which would probably be out-competed by more rank growth if it were not for the continued erosion. Some local solitary bees occur here, however as the weather was most unfavourable, by now windy as well as very cloudy, few aculeata were seen. Frances Murphy took an interesting linyphiid spider, *Erigone promiscua* (O.P.-C.) and Peter Chandler was also pleased to capture two flies of damp woodland,